

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Federal-State Joint Board	)	CC Docket No. 96-45
on Universal Service	)	

**REPLY COMMENTS OF GTE**

GTE Service Corporation and its affiliated domestic telephone operating companies<sup>1</sup> ("GTE"), hereby submit their Reply to the comments filed in the above-captioned proceeding<sup>2</sup> with regard to redefining voice grade service for purposes of universal service, as requested by several state parties.<sup>3</sup> Petitioners are seeking a

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<sup>1</sup> The GTE affiliated domestic telephone operating companies are GTE Alaska, Incorporated, GTE Arkansas Incorporated, GTE California Incorporated, GTE Florida Incorporated, GTE Hawaiian Telephone Company Incorporated, GTE Midwest Incorporated, GTE South Incorporated, GTE Southwest Incorporated, Contel of Minnesota, Inc., GTE West Coast Incorporated, and Contel of the South, Inc.

<sup>2</sup> Public Notice, "Common Carrier Bureau Seeks Comment on Requests to Redefine 'Voice Grade Access' For Purposes Of Federal Universal Service Support," CC Docket No. 96-45, DA 99-2985, released December 22, 1999, ("Public Notice")

<sup>3</sup> The North Dakota Public Service Commission, South Dakota Public Utilities Commission, and the Washington Utilities and Transportation Commission filed Petitions for Reconsideration on the Fourth Reconsideration Order in CC Docket 96-45. Rural Utilities Service ("RUS") also asked for reconsideration of this issue, arguing a need for 28.8 kbps transmission speed, and the National Association of Regulated Utilities Commissioners supported this position in their resolution dated March 18, 1998.

higher bandwidth requirement to accommodate faster transmission speeds for data connections.

Most parties concur with GTE that increasing the bandwidth to 3,500 Hertz ("Hz") will require an exorbitant expenditure, while doing nothing to improve the quality of voice grade service. In addition, most commenters agree that the proposed increase in bandwidth will not guarantee a 28.8 kilobit per second ("kbps") data transmission speed due to a number of other factors that cause signal loss or interference -- factors which affect data transmission speed in both rural and urban areas. GTE urges the FCC to allow carriers to provide solutions in response to market demand for data services, rather than dictating a specific modem speed that will be outdated as technology continues to develop. Finally, it would be more appropriate for the Commission to consider any proposals for revising the definition of universal service, if necessary, in its review already slated for 2001.

**I. INCREASING THE BANDWIDTH FOR VOICE GRADE ACCESS WOULD REQUIRE ENORMOUS EXPENDITURES WITHOUT NECESSARILY IMPROVING DATA TRANSMISSION SPEEDS.**

In its initial Comments, GTE showed the significant cost of upgrading voice grade lines from 3,000 to 3,500 Hz. Many of the commenting parties agreed. Several provided cost estimates showing the magnitude of cost and effort necessary to meet the requirement of a 3,500 Hz bandwidth. In order to increase to a 3,500 Hz bandwidth requirement, Citizens estimated its cost to replace just its central office line cards would be approximately \$165 million or \$106-\$176 per line.<sup>4</sup> AT&T gave a conservative

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<sup>4</sup> Comments of Citizens Utilities Company ("Citizens") at 5-6.

estimate of \$10 billion to replace line cards nationwide using a \$60 installed cost per line.<sup>5</sup> US West estimated it would take \$200 million to make its Colorado network capable of attaining 28.8 kbps.<sup>6</sup> GTE estimated a cost of \$216 million to make its network capable of attaining 28.8 kbps in the state of Washington. A GTE modem speed study prepared for Wisconsin showed a total state cost of \$654 million.<sup>7</sup>

Even if the money were spent to increase the voice grade bandwidth to 3,500 Hz, many commenting parties agreed that there would be no assurance of achieving data transmission speeds of 28.8 kbps. In its initial Comments, GTE explained that other factors could cause the actual transmission speed to fall short of that target.<sup>8</sup> USTA categorized these significant factors as attenuation loss, induced noise, analog-to-digital conversions, different modems and interconnection methods used by Internet Service Providers.<sup>9</sup>

In fact, there is overall consensus in the record that actual transmission speeds will be influenced by several factors. Even RUS concedes that increased bandwidth is not the only factor affecting data transmission speeds. RUS states that "the bandwidth of voice grade service is important because it is one factor that can limit modem

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<sup>5</sup> Comments of AT&T Corp. ("AT&T") at 9.

<sup>6</sup> Comments of US West ("US West") at 12.

<sup>7</sup> Comments of GTE at 6.

<sup>8</sup> GTE at 8-13.

<sup>9</sup> Comments of United States Telecom Association ("USTA") at 6-9. *See also*, US West at 8, Comments of Advanced Fiber Communications, Inc. ("Advanced Fiber") at 1-2.

performance. It is not the only factor, but it is the only factor quantified in the Commission's definition of voice grade service."<sup>10</sup> Yet, RUS would have the Commission require a 3,500 Hz bandwidth for voice grade service to accommodate data transmission even though there would be no guarantee that a 28.8 kbps can be realized. The Comments of the Illinois Commerce Commission recognized that more would have to be done than simply increasing the bandwidth:

The necessary upgrades to the rural network could be accomplished either by removing the devices that are designed to improve voice capability from the loops or by replacing the existing plant facilities with large gauge wire, coax or fiber optics that could accommodate the bandwidth capacity requested by Petitioners.

The Illinois Commerce Commission correctly acknowledges that these necessary network upgrades "would be extremely expensive."<sup>11</sup>

RUS suggests that there is a problem with "speech intelligibility" at a 3,000 Hz bandwidth.<sup>12</sup> However, RUS provides no definitive data to support this position. In fact, the 300 Hz to 3,000 Hz standard has been in place for many years without significant claims of insufficiency. GTE agrees with Bell Atlantic that "local exchange carriers should not be required to make a substantial investment to achieve only a modest increase in analog modem speeds."<sup>13</sup>

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<sup>10</sup> RUS at 6.

<sup>11</sup> Comments of Illinois Commerce Commission ("Illinois Commerce Commission ") at 7.

<sup>12</sup> RUS at 5.

<sup>13</sup> Comments of Bell Atlantic ("Bell Atlantic") at 3-4.

In light of the sufficiency of the existing voice network for voice communications and the lack of assurance of achieving data speeds of 28.8 kbps by upgrading the voice grade network to 3,500 Hz, the significant network changes and substantial cost involved cannot be justified.

## **II. THE COMMISSION SHOULD ALLOW TECHNOLOGY TO DEVELOP IN RESPONSE TO MARKET DEMAND FOR HIGH SPEED DATA SERVICES.**

In its initial Comments, GTE urged the Commission to allow new technologies and the competitive market to develop improved data alternatives, rather than re-working the old standard to provide a few additional kilobits per second.<sup>14</sup> Several commenters described the evolving telecommunications technologies and the services being developed which will provide high-speed data transmission now and in the future. For example, US West cited the use of microwave and satellite technologies for high speed access to the Internet,<sup>15</sup> and AT&T noted "digital broadband technologies such as xDSL or HFC networks that have the capacity to improve access to the Internet by 50 to 100 fold."<sup>16</sup>

The Commission should look to these developments as potential solutions to the concerns of the Petitioners. As stated by Nortel Networks, it does not make sense "to attempt to address data access by re-defining voice grade access."<sup>17</sup> In fact, the requirement to accommodate data transmission over voice grade access is

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<sup>14</sup> GTE at 16.

<sup>15</sup> US West at 9.

<sup>16</sup> AT&T at 12.

<sup>17</sup> Nortel Networks Comments ("Nortel") at 3.

"inconsistent with technology trends."<sup>18</sup> Nortel described how technology now permits the separation of voice and data to maximize wireline and wireless communications links.<sup>19</sup>

Advanced Fiber states that adoption of the increase in bandwidth would be "gold-plating" and that the proposal to increase the bandwidth for voice grade access is only trying to make "existing infrastructure perform better at its old job rather than moving forward with new technology."<sup>20</sup> The effect would be to "slow down the advancement of DSL and other carrier-based Internet access technologies while increasing the cost of the existing infrastructure without achieving strategic technological gain."<sup>21</sup> GTE agrees. The Commission should not require a standard that continues to evolve as a result of market demand for innovative technology.<sup>22</sup>

The Commission's Report to Congress on Advanced Services stated that the Commission envisions "successive generations of bandwidth technologies for the last

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<sup>18</sup> *Id.* at 4.

<sup>19</sup> *Id.* at 3.

<sup>20</sup> Advanced Fiber at 3.

<sup>21</sup> *Id.* at 4.

<sup>22</sup> NTCA at 3, notes that modems today are built to be capable with higher transmission speeds than the modems of two years ago that had an upper limit of 28.8 kbps. "It does not make sense for carriers to build and receive support for new plant that cannot meet even minimal data transmission speeds."

mile, each a leap forward in speed from the current generation."<sup>23</sup> Requiring a higher bandwidth for voice grade service to accommodate a specific data transmission speed would undermine competitive solutions and eventually may limit the deployment of future services.

### **III. UNIVERSAL SERVICE SUPPORT FOR ACCESS TO THE INTERNET SHOULD BE EVALUATED AS PART OF THE COMMISSION'S 2001 REVIEW.**

The Petitioners' underlying concern is for a change in the bandwidth for voice grade service so that customers in rural areas could access the Internet at a 28.8 kbps transmission speed. With regard to universal service, the threshold question that needs to be addressed is "Should access to the Internet be a supported service?" If yes, then "How should access to the Internet be defined?" must also be answered. The appropriate forum to address the threshold question is the Commission's review of the universal service definition already scheduled to occur in 2001.<sup>24</sup> At that time, proposals for additional capabilities to be included in the definition of universal service would be evaluated in light of the criteria set forth in Section 254(c).

The Commission's 1998 Report to Congress provides significant analysis on the role of Internet access in universal service.<sup>25</sup> The Commission classified Internet

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<sup>23</sup> Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, Report, 13 FCC Rcd 15280 (1999.) ("Report to Congress on Advanced Services")

<sup>24</sup> See First Report and Order, Federal-State Joint Board on Universal Service, 12 FCC Rcd 8776 at ¶104 ("First Report and Order").

<sup>25</sup> Federal-State Joint Board on Universal Service, CC Docket 96-45, Report to Congress, FCC 98-67, rel. April 10, 1998. ("Report to Congress")

access as an "information service" because it offers end users the "capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information."<sup>26</sup> In determining if Internet access should be included in the definition of universal service, the Commission stated that "the record does not indicate that a substantial majority of residential customers currently subscribe to Internet access by using access links that provide higher quality than voice grade access."<sup>27</sup> This statement suggests that the Commission views support for access to the Internet as applying to services other than voice grade access. The Commission has stated that "demand for Internet service will cause carriers to offer higher bandwidth services and data rates for residential customers."<sup>28</sup> This is proving to be true. Thus, any evaluation of whether these services should be included in the definition of universal service should be conducted in the course of the review already contemplated for 2001.

#### **IV. CONCLUSION**

Increasing the voice grade bandwidth to 3,500Hz would require substantial network changes at significant cost. However, even if the voice grade bandwidth were increased, there is no assurance that data transmission rates would improve since many factors other than bandwidth affect transmission speeds. The Commission should allow new technologies and the competitive market to develop improved data

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<sup>26</sup> *Id.* at ¶80.

<sup>27</sup> First Report and Order at ¶93.

<sup>28</sup> *Id.* at ¶83.



alternatives, rather than re-working the old standard attempting to squeeze out additional speed from the voice network.

Dated: February 4, 2000

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## **CERTIFICATE OF SERVICE**

I, Judy R. Quinlan, hereby certify that copies of the foregoing "Reply Comments of GTE" have been mailed by first class United States mail, postage prepaid, on February 4, 2000 to the parties on the enclosed list.

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